

IV. AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A plasma cleaning device comprising:
a chamber for cleaning a process target disposed therein with a plasma, the chamber having an exhaust mechanism evacuating the chamber to a reduced pressure therein lower than the atmospheric pressure;

a process gas introducing mechanism for introducing a process gas into the chamber;

~~opposite electrodes of a pair of an active plate electrode and an earth plate electrode grounded which are and~~ housed in the chamber, the active plate electrode and the earth plate electrode being disposed apart from one another in a facially-opposing, generally parallel manner to define a plasma-producing space therebetween;

a plasma generating power supply connected to the active plate electrode for supplying a power supply for use in generating the plasma in the ~~chamber~~plasma-producing space;

a disposing position of the process target for disposing the process target outside ~~a space between the opposite electrodes of the plasma-producing space;~~ and

an electrically conductive path connected to the process target.

2. (Currently Amended) The plasma cleaning device according to claim 1, wherein the disposing position of the process target is at the other side of the earth plate electrode from the active plate electrode.

3. (Original) The plasma cleaning device according to claim 1, wherein the electrically conductive path is provided with an auxiliary power supply applying a potential to the process target.

4. (Original) The plasma cleaning device according to claim 3, wherein the auxiliary power supply is a DC power supply.

5. (Original) The plasma cleaning device according to claim 4, wherein an output potential of the DC power supply is variable.
6. (Original) The plasma cleaning device according to claim 3, wherein the auxiliary power supply is an AC power supply.
7. (Original) The plasma cleaning device according to claim 3, wherein a resistor is connected between the auxiliary power supply and the process target.
8. (Original) The plasma cleaning device according to claim 3, wherein a diode is connected between the auxiliary power supply and the process target so that the process target side thereof is the anode thereof.
9. (Original) The plasma cleaning device according to claim 3, wherein a series circuit of a resistor and a diode is connected between the auxiliary power supply and the process target, the diode being connected so that the process target side thereof is the anode thereof.
10. (Original) The plasma cleaning device according to claim 3, wherein the auxiliary power supply is provided with a protective circuit against a current flowing thereinto from the process target.
11. (Original) The plasma cleaning device according to claim 10, wherein the protective circuit is a resistor connected in parallel to the auxiliary power supply.
12. (Original) The plasma cleaning device according to claim 10, wherein the protective circuit is a parallel circuit of a resistor and a capacitor connected in parallel to the auxiliary power supply.
13. (Original) The plasma cleaning device according to claim 1 or 2, wherein an insulating cover is disposed in the chamber,

the insulating cover covering the pair of opposite electrodes and the disposing position of the process target,
and the insulating cover having an opening through which a process gas flows.

14. (Original) The plasma cleaning device according to claim 1 or 2, wherein plural sets of the pair of opposite electrodes and the disposing position of the process target are provided in a common chamber,

a space in the chamber is partitioned into subspaces for the sets so that a plasma is generated by each of the sets in a corresponding subspace independently of the other sets, and

the electrically conductive path is also connected to the process target of each of the sets.

15. (Currently Amended) The plasma cleaning device according to claim 14, wherein the active plate electrode of each of the sets is connected to the plasma generating power supply through a corresponding resistor in parallel each other.

16. (Original) The plasma cleaning device according to claim 1 or 2, wherein the process gas is air.

17. (Original) The plasma cleaning device according to claim 1 or 2, wherein an inlet port for the process gas is provided to a vent pipe of the chamber.

18. (Currently Amended) The plasma cleaning device according to claim 1 or 2, further comprising a reflecting plate electrode in an electrically floating state at the other side of the active electrode from the earth electrode.

19. (New) The plasma cleaning device according to claim 1, further comprising a reflecting plate electrode disposed apart from the active plate electrode in an electrically floating state and in a facially-opposing, generally parallel manner with the active plate electrode to define an empty space therebetween.

20. (New) The plasma cleaning device according to claim 19, wherein the earth plate electrode is disposed between the active plate electrode and the process target and the active plate electrode is disposed between the earth plate electrode and the reflecting plate electrode.